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THE FACTUAL BACKGROUND OF A LAND-USE PROGRAM\*

By V. B. Hart  
Extension Economist, Farm Management, Cornell University

I have said a good many times that "If they have the facts, I will bank on the judgment of a group of hard-headed and hard-handed farmers to run a county extension organization, a cooperative business organization, a land-grant college, or the United States government." To this statement I would now add "Given the facts, I will bank on the judgment of that same group of farmers to develop and direct a sound land-utilization program."

It is a regrettable thing that, in our anxiety to get farmer participation in agricultural planning, we have frequently asked farm people to make decisions and recommendations when they did not have the facts; and sometimes we have later criticized them for the decisions and recommendations which they have made. We should rather have criticized ourselves for asking them to "make bricks without straw."

Over a long period of time the use that is being made of land in any region tends to become adjusted to local conditions. However, when social or economic conditions change, needed adjustments are made slowly. This delay in adjusting to changing conditions is partly due to the force of habit and inheritance but more especially to the fact that farmers frequently do not have sufficient information so that they can determine whether social and economic changes are temporary or permanent.

We see here in the Northeast a glaring example of this lag in adjusting to changing conditions. Farmers in the Northeast continued to produce timothy hay as a crop for sale and to farm land that would grow nothing much except timothy hay, long after gasoline had replaced a large part of the horses used in our cities and after the market for timothy hay had practically disappeared. In a similar way many Northeastern farmers continued to produce butter and wool long after a more profitable outlet for their forage and pasture was available in the form of a market for whole milk.

Farmers who hung onto timothy hay as a cash crop and butter and wool as a use for their forage and pasture were not dumb but simply needed the cold facts to show them the steady decline that was taking place in the horse population in eastern cities and the rapid expansion that was occurring in sheep and butter in the Midwest and West.

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If we assume that our land-use problem is that of making the best possible uses of the different combinations of dirt, trees, and rocks that nature has given us, we can expect the slow process of economic starvation to eventually force land not adapted to farming into forestry and recreational uses and that land adapted to farming will eventually be well serviced by good roads, electric lines, good schools, and other public services needed to maintain a decent standard of living for farm people. But, if we wait for this to be brought about by the slow action of economic and social laws, we must expect a lot of wasted energy and much grief. Therefore we are and should be concerned with speeding up these needed adjustments in the use of land in order to save energy, money, and courage of our farm people and those of us who are working with them.

A century ago there was little need for research or extension work in land utilization, and there was little basis for research work in this line. Most of what a farm family produced it consumed, and most of what it consumed it produced. If they didn't produce enough to clothe and feed themselves, either they were cold and hungry, or else more fortunate neighbors sent them a bag of wool and a side of pork. With our ever-changing economic conditions, which means that many farms that would once support a farm family will not do so now, there is a decided place in our agricultural educational work for the study of land utilization. No one farmer lives long enough to try out for himself very many different classes of land. Therefore he needs information based on experience of a large number of other persons who are in the same business.

Land utilization, as an academic subject, is comparatively new, and because an individual farmer cannot see the returns obtained by his neighbors from operating different kinds of land in the same way as he can observe the results of a neighbor using different varieties of seeds or different amounts of fertilizer, there is a big need for sound research and sound extension in the field of land use. The gap between research and putting into practice the recommendations based on research is much wider in land utilization than most other subject-matter fields. Farmers have read bulletins for years giving the results of feeding and fertilization experiments, but land utilization and land classification is a new breed of cats.

In supplying farm people with factual information as a basis for a sound land-use program, we run into exactly the same problem that we do in other lines of extension work; namely, the job of first getting sound research work done, next the job of selecting and interpreting in our own minds these results, and then the real extension job of putting them across to the farmer in the way that he can and will use them.

Research work in land utilization costs money. We have found in New York State that it costs us about \$10,000 to make a detailed land-classification study in one of our average counties. If we wait until we have a detailed land-classification study completed in each of our 55 agricultural counties before attempting to help farm people develop land use programs, it will be about like waiting for the slow process of social



and economic laws to bring about needed adjustments. On the other hand, our farm people in counties where detailed land-classification studies have not been made are saying, "Well, what we need here in our county of course in order to do a good job of developing land-use programs and policies is one of those detailed land-classification studies that divides the land up into Classes I to VII. When we get that we will be ready to do business."

Every State is faced with this problem of lack of funds to do needed research work in land utilization. We cannot make recommendations without the facts. Neither can the farmer. But we can't wait until we get all the facts before doing something. Therefore it is a job of keeping the proper balance between the assembling of facts, studying them, and making recommendations based on them. This balance or allocation of money and effort to research, extension, and the development of programs and policies based on research and extension should apply to educational workers as well as farm people.

Based on the experience we have had in New York State and on my own personal observations of land-utilization work in other States, I feel that before starting any land-utilization extension program, some research should be done in this field. How big "some" is must depend upon the amount of funds and personnel available and how serious the problems of bringing about adjustments in the use of land. In my own State we made, about 10 years ago, a detailed and expensive land-utilization and classification study of one county before making a preliminary land-utilization study of the State. This probably was a mistake from the angle of speeding up the solution of our land-use problem. A preliminary or reconnaissance land-utilization study of the entire State made before attempting the detailed study in an individual county would have been a better way to go about it. However, funds were available for a detailed study in a single county and not for a general reconnaissance survey for the entire State.

We accumulated a large amount of factual information about one county and learned a lot about methods, but we were in desperate need of factual information for the entire State. The detailed study in a single county indicated the need for similar studies in all the rest of the counties, and a preliminary study made covering the entire State about 5 years later indicated the need for detailed studies in individual counties. It is clearly evident that investing \$10,000 in a detailed land-classification study of a single county is an investment that will pay good dividends, but it is also evident that we need to keep investing smaller amounts in the rest of the counties while waiting for funds to make a detailed and complete job in individual counties.

This lack of factual information on land utilization coupled with the demand and need for it puts the extension worker in an embarrassing situation. In my State, for example, a preliminary survey of the State has separated the land into classes I and II and "all else." Land class I



is primarily adapted to forestry and recreational uses. A large portion of it is idle or in woods and most of the farms in this land class have already been abandoned. Land class II has considerable farming on it, but the greater part of it is better adapted to forestry and recreational uses than to farming. To say it another way, land class I is practically out of the agricultural picture, and land class II is on the way out. "All else" is land that is expected to stay permanently in agriculture.

Our farmers kept asking the question of how much land do we have in the different classes. We had made detailed studies dividing the land into Classes I to VII inclusive in 14 of our 65 agricultural counties. We also knew the amount of land class I and land class II in the State from our preliminary surveys. So, based on the preliminary survey covering the entire State and on detailed studies in 14 counties, I prepared the following table showing our best estimate of the percentage of up-State New York in different land classes.

Table 1. UP-STATE NEW YORK\*  
20,000,000 acres

Land class	Value for agriculture	Acres (millions)	Percent of total**
I	0	3.4	17
II	0+	2.4	12
III	Fair	7.6	38
IV	Good	4.2	21
V	Better	1.6	8
VI	Best	.2	1
VII	Best+		?
Residential		.6	3
		20.0	100

\* All land north of Columbia, Ulster, and Sullivan Counties and outside Adirondack and Catskill Parks.

\*\* Figures for land classes I and II are from Report of the New York State Planning Board on "Submarginal Farm Lands in New York State." Figures for other classes are estimates by V. B. Hart based on Land Utilization and Classification Studies made by Department of Agricultural Economics and Farm Management of the New York State College of Agriculture.

Some of our technical research workers in the field of land utilization were at first horrified by such approximations. However, when a group of them were asked to estimate independently of each other the percentage of land in the different classifications, the average of their estimates checked out within one percent of the figures given in the



accompanying table. I have no doubt that when we have completed the detailed land-classification studies in all the agricultural counties of the State that these figures may have to be revised a little. However, some of the census figures have to be revised once in awhile, but we don't always wait 25 years before using them.

Another problem is preparing and presenting factual information to groups of farm and city people concerned with land utilization is the old one "getting it down where they can understand it." Given the same amount of time and experience in reading and analyzing graphs, curves, and long strings of figures, the average farmer can probably do as good a job, or better, in interpreting the results of research work as the research or extension worker would himself. However, we must recognize that members of county land-use committees and other groups with whom we are working have not had this experience.

In attempting to give a general picture of uses made of land in New York State we tried out a number of different tables and charts showing, as we thought in a clear and concise manner, the ownership and use of land in the State. None of these charts and tables went across. Finally a farmer friend of mine looked at one of them and said "Isn't this about what it amounts to?" and then he showed me the following table.

Table 2.

NEW YORK STATE  
Land Area 1935

	Millions of acres
State-owned land	3.0
Cities and villages	1.0
Farms	18.7
Private forests*	2.4
All else	5.4
	30.5

Data from table 1, Cornell Extension Bulletin 372 "Land Utilization and Classification in New York" by T. E. LaMont.

\* In Adirondack and Catskill State Parks, i.e., inside "Blue Lines."

I made the statement that the study of land use is a comparatively new subject. It is insofar as we think of it as a subject to be taught in college or included as a definite item in a State or Federal program of work. However, about a couple of thousand years ago there was related and recorded the story of a man who scattered seeds over a number of different classes of land. Some went 10 bushels to the acre, some 20, and some 100. Apparently some of the seed fell on land better adapted to game preserves than to agriculture for we read that the birds gathered it up and the census reported it as "crop failure."



In different States, in different counties, and in different communities we find groups of people with varying amounts of knowledge and interest in land utilization. Some have never got any farther than the parable of the sower, others could give us all a good collegiate course in land use. We must recognize that the principal reason why farm people in some States and counties know more about land use than those in others is that more facts have been made available to them. If the parable of the sower is all they know about land utilization it is probably because that is about all the county agricultural agent as well as the Sunday School teacher knew about the subject. We must recognize that there are wide variations in the amount of knowledge different groups have on land utilization and in laying out a plan or program of work in this field we must remember to vary our programs between States, counties, and communities.

In my opinion it is absolutely unsound and inefficient to expect that we can standardize the land-use program to cover all States or even all counties within a State. As Director Corbett has so aptly stated "We must start where the people are." This means that some States and some counties are ready for one type of program but others are not, and the sooner we recognize this in making a national or State program the better for all concerned.

In watching the land use work in my own State during the past 20 years, I have been greatly impressed with the use that farm people and those working with them have made of farm management and other economic information in the development of their ideas about land use. One of the best arguments that our farm people are now using for getting submarginal land out of private hands and over into public ownership is what farm-management surveys show about the incomes made on different land classes. The following table shows, not someone's opinion or theory about farm incomes, but the actual experience of several thousand farmers over a long period of time.

Table 3. LAND CLASS AND LABOR INCOME\*  
5,789 New York Farms, 1907-36

Land class	Capital	Labor income
I	\$ 4,673	\$ 112
II	5,333	155
III	8,483	204
IV	10,703	356
V	13,689	592
VI	18,644	1,285

\* Data from unpublished thesis of Howard Tyler in Cornell University Library.



These farm-management surveys, sorted by land classes, furnish some of the best factual information that we have on which to base a sound land-use program. I am just old fashioned enough to think that in a State or county where little or no information is available on farm incomes the first and best research work that might be done in the field of land utilization would be a farm-income survey. Before we can say that certain land classes do not provide a sufficient income to warrant being kept in agriculture, we want to know whether we are basing our recommendations on facts or opinions.

Land that is going to stay permanently in agriculture needs to be served by good roads, good schools, electric lines, etc. Different areas of land are adapted to varying intensities of use and therefore warrant different qualities of public services. This means the need for sound research dealing with factors affecting the cost of roads, schools, etc. Before making ourselves, or allowing a county agricultural land-use committee to make specific recommendations concerning types of public services that should be provided for different land classes, we should know something about the costs of those services by land classes.

It has been generally conceded that there are a lot of unpaid taxes on poor land and that fire losses and losses from extending credit in areas of poor land are high. Many wild statements were made in New York State on these points with little or no factual information back of them. In the following table we have the facts concerning unpaid taxes, fire losses, and mortgage losses for one of our counties.

Table 4. UNPAID TAXES AND FIRE AND MORTGAGE LOSSES  
Tompkins County, New York

Land class	Unpaid taxes 1922-30	Fire losses per \$1000 1920-30	Mortgage losses 1917-30
I	6.9	- )	Percent
II	2.3	\$4.90 )	14.0
III	.9	2.48	2.7
IV	.6	2.23 )	
V	.8	.95 )	.5

Data from Cornell Extension Bulletin 372.

This factual information and similar data for other counties have served as a sound basis for public and private agencies concerned with taxes, fire insurance, and credit in the conduct of their businesses.

One important reason for having representatives of State and Federal agencies concerned with land-use action programs serving on county agricultural-land-use committees is so that farmer members of these committees



can "get the facts" concerning what these agencies are doing. In meetings of county land-use committees I have repeatedly heard statements like this: "Well, I heard that such a Government agency had gone and done this, and I wonder just what the facts are about it?" Having the official representative of that particular Government agency right there on the spot to present the facts means either clearing up an incorrect report or else making a start towards clearing up an unsound program.

As I see it, these county agricultural land-use committees have three immediate and definite jobs and responsibilities:

1. To familiarize themselves with the general land use situation and problems of their State and county.
2. To familiarize themselves with the programs of the various Federal and State agencies concerned with land use in their county.
3. To make specific recommendations to those Federal and State agencies concerned with land use with respect to adjustments in their programs that are needed to bring about the best possible use of land.

To these three specific jobs, we might add the more general one of developing a long-time land-use policy for the county, but our immediate job, as I see it, is to help our county committees to do those three specific things.

In helping our county committees on these three jobs we need factual information. We need results of sound research work. We need land-classification studies. We need land-use maps, and if we don't have them we've got to make them. But all of these are a means to an end or tools with which we work. I once knew a farmer who spent so much time making a corn marker and land roller that it was the Fourth of July before he got ready to plant corn. In making our nicely colored land-use maps or in having farmers make them, we must remember that these maps are simply tools that we use for growing the crop and that making the corn marker and the land roller won't plant the crop or cultivate it. It is not the fact that a particular area of land is colored red or blue on a map that should concern us but rather why was it colored red or blue and what use should be made of that land, and how are we going to bring about that use.

With reference to the specific place which maps and map making should have as factual information in a land-utilization program of work, I believe that no person has any business to make a land-classification map or to interpret the results of one without actually going out and seeing the land. The fact that a person has lived in a particular county or community all his life may make little difference in his ability to make a land-classification map of that section.



When I first saw the detailed land-classification map for the eastern half of Tompkins County, N. Y., over most of which I had hunted, fished, and followed a threshing outfit, and over a considerable part of which I had run a plow or grain binder, I said, "Those birds who made that map are all wet. Why, I know every acre of that area they have called class II and I have pressed out on those farms some of the best mows of hay ever grown, and some of the best crops of wheat ever grown in the county came from those farms." All of which was true; some of the best crops of hay (of course it was timothy hay and the market for that is now gone) and some good crops of wheat had been grown on those farms in some very favorable years. But when I actually took a soils map and a topographical map and rode over those sections again and went over the results of farm-management surveys made in those sections, I concluded the men who made the map knew their business.

Again I wish to emphasize the importance of factual information instead of opinions in making land-class maps. I have the highest respect for the opinion and judgment of farmers on our county land-use committees, but again they or anyone else making a land-classification map need more factual information than that gained by living on one farm in the community.

To summarize, let's get the facts and then stick to them.



